REMARKS

Status of the Claims

Claims 2-8, 12 and 14-38 are pending in this application. No claims have been canceled. Claims 36-38 have been added.

Applicants submit that no new matter has been added by the above claim amendments.

New claim 36 is directed to a copolymer having all five repeating units (I), (II), (III), (IV) and (V). Support for new claim 36 is found at page 4 of the specification.

New claim 37 is directed to a composition similar to the composition of claim 2, expect the monomer (IV) is selected from monomers having a hydrophilic group selected from the group consisting of a carboxyl group, a phosphate group and a sulfate group and the specific monomers thereof. The specific monomers of Claim 37 are 2-hydroxy-3-phenoxypropyl acrylate, β-acryloyloxyethyl hydrogen succinate, β-methacryloyloxyethyl hydrogen phthalate, 2-acryloyloxyethylhexahydrophthalic acid, 2-acryloyloxyethylphthalic acid, 2-acryloyloxyethyl-2-hydroxy-ethylphthalic acid, hydroxypropyl methacrylate trimethylammonium chloride, 2-acryloyloxyethyl acid phosphate, glucosylethyl methacrylate, 2-acrylamido-2-methylpropanesulfonic acid, 2-hydroxy-3-acryloyloxypropyl methacrylate, 2-methacryloyloxyethyl acid phosphate and neopentyl glycol hydroxypivalate diacrylate.

The monomers recited in USP 5,068,295 are not included. The phosphate group and the sulfate group are supported by page 18, lines 23-25 of the specification and are possessed by 2-acryloyloxyethyl acid phosphate, 2-acrylamido-2-methylpropane-sulfonic acid and 2-methacryloyloxyethyl acid phosphate. The carboxyl group is supported by β-acryloyloxyethyl hydrogen succinate, β-methacryloyloxyethyl hydrogen phthalate, 2-acryloyloxyethylhexahydrophthalic acid and 2-acryloyloxy-ethylphthalic acid which have the carboxyl group (COOH). 2-hydroxy-3-phenoxypropyl acrylate, 2-acryloyloxyethyl-2-hydroxyethylphthalic acid, hydroxypropyl methacrylate trimethylammonium chloride, glucosylethyl methacrylate, 2-hydroxy-3-acryloyloxypropyl methacrylate and neopentyl glycol hydroxypivalate diacrylate do not have the phosphate group, the sulfate group or the carboxyl group.

New Claim 38 is directed to the composition of claim 2, expect the organic solvent is limited to glycol ethers and diesters.

Rejection under 35 USC 112, second paragraph

The Examiner rejects claim 6 as indefinite. Applicants traverse the rejection. Applicants amend claims 2 and 6 so that repeating units (IV) and (V) are no longer optional components of the composition. As such, claim 6 is also amended to no longer

repeating unit (IV) is derived from a monomer having conjugated double bonds or one or two carbon-carbon double bonds, and the homopolymer of which has a glass transition temperature (Tg) of 50°C or less. As such, Applicants respectfully request that the rejection be withdrawn.

Rejection under 35 USC §102(b) and §103(a)

The Examiner rejects claims 2-8, 12 and 14-33 as anticipated by or obvious over Misaizu et al. USP 5,068,295 (Misaizu '295).

Misaizu '295 discloses various sub-combinations containing less than all the components (I), (II), (III), (IV) and (V). However, Misaizu '295 does not disclose or suggest any examples containing the combination of all the five repeating units (I), (II), (III), (IV) and (V) as defined in the amended claim 2. Moreover, Misaizu 295 does not disclose or suggest the use of glycol ethers or diesters.

The combination of the five monomers in the present invention yields excellent water- and oil-repellency as shown in Table 9, Preparative Examples 16-18, which demonstrates the excellent water- and oil- repellency of the present invention. Compare these results with the results for Preparative Examples 4-6, in Table 5. Preparative Examples 16-18 contain all five repeating units whereas Preparative Examples 4-6 only contain repeating units (I)-(III). Applicants submit that Preparative

Examples 4, 5 and 6 of the present specification correspond to the copolymer of Misaizu '295 if the polymer alone is considered. However, please note that Preparative Examples 4, 5 and 6 of the present specification use dipropylene glycol monomethyl ether which is not disclosed in Misaizu '295.

As such, Applicants submit that the present invention is patentable over Misaizu '295 as Misaizu '295 fails to disclose or suggest the present invention and the present invention has unexpected superior water and oil repellency properties over the composition of Misaizu '295. Thus, the rejection should be withdrawn.

The Examiner also rejects claims 34 and 35 as anticipated by or obvious over JP A-2-15695 (JP '695). Applicants traverse the rejection and respectfully request the withdrawal thereof.

JP '695 discloses a polymerizable compound having the fluoroalkyl or fluoroalkenyl group (similar to monomer (I) of the present invention) and a polymerizable compound having a functional group (similar to monomer (II) of the present invention). JP '695 describes some of the monomers (III), (IV) and (V) at page 4, right lower column, line 1 to page 5, left upper column, line 8. (Please see the partial translation of JP '695 attached hereto.) Some of these monomers are classified as monomers represented by repeating units (III), (IV) and (V) as in the present invention, while many others are not classified as

these monomers, such as:

Monomer (III)	butadiene, isoprene, chloroprene
Monomer (IV)	acrylic acid, methacrylic acid, poly(oxyalkylene) acrylate, poly(oxyalkylene) methacrylate, acrylamide, methacrylamide, diacetoneacrylamide, methylolated diacetoneacrylamide, N-methylol acrylamide, glycidyl acrylate, glycidyl methacrylate, maleic acid
Monomer (V)	vinyl chloride, vinylidene halide, halogenated alkyl vinyl ether,
Others	ethylene, vinyl acetate, vinyl fluoride, styrene, alkyl esters of acrylic acid, alkyl esters of methacrylic acid, vinyl alkyl ether, perfluoroalkenyl vinyl ether, vinyl alkyl ketone, benzyl acrylate, benzyl methacrylate, cycolohexyl acrylate, cyclohexyl methacrylate, alkyl esters of maleic acid, tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, aziridyl acrylate, aziridyl methacrylate, dimethylaminoethyl acrylate and dimethylaminoethyl methacrylate

Incidentally, JP '695 exemplifies monomers which are included in monomers (III), (IV) and (V). However, JP '695 does not recognize the difference between monomers (III), (IV) and (V) and other monomers. JP '695 fails to teach the combination of the monomers (I), (II), (III), (IV) and (V). JP '695 also fails to disclose any advantage of combining all monomers as in the present invention. As such, Applicants submit that the rejection should be withdrawn as the Examiner has failed to establish a prima facie case of obviousness.

Conclusion

As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kecia Reynolds (Reg. No. 47,021) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the

required fee of $110.00 is attached to the Request for Continued Examination filed concurrently herewith.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Andrew D. Meikle, #32,868

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

ADM/KJR:bmp
0020-4594P

Attachments: Version with Markings to Show Changes Made;
Partial Translation of JP-A-2-15695

(Rev. 02/20/02)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims have been amended as follows:

Claim 2. (Twice Amended) A composition comprising

(A) a copolymer which comprises

(I) repeating units which are derived from a monomer having a fluoroalkyl group, a carbon-carbon double bond, and optionally a urethane or urea bond,

(II) repeating units which are derived from a monomer having a urethane or urea bond and one carbon-carbon double bond, but no fluorine atom,

(III) repeating units which are derived from a monomer having a carbon-carbon double bond, the homopolymer of said monomer having a glass transition temperature (Tg) of 50°C or less,

(IV) **[**optional**]** repeating units which are derived from a monomer having a hydrophilic group and a carbon-carbon double bond, and

(V) **[**optional**]** repeating units which are derived from a monomer having a chlorine atom and a carbon-carbon double bond and

(B) a film-forming auxiliary consisting of an organic solvent which dissolves or swells the copolymer,

wherein [at least one of the repeating units (IV) and the repeating units (V) is essestial, and] said film-forming auxiliary (B) has a solubility parameter (sp) at 25°C in the range between 8 and 11, said film-forming auxiliary (B) is at least one solvent selected from the group consisting of alcohols, glycol ethers, linear or cyclic silicones, esters, diesters, ketones and ethers, and the composition is in the form of an aqueous dispersion of the copolymer dispersed in a medium comprising water in the presence of a nonionic, cationic or anionic emulsifier.

Claim 6. (Amended) A composition according to claim 2, wherein [a monomer which constitutes] said repeating units (III) are derived from a monomer having conjugated double bonds or one or two carbon-carbon double bonds, and the homopolymer of which has a glass transition temperature (Tg) of 50°C or less.

Claims 36-38 have been added.

Partial translation of JP-A-2-15695 (JP-A-2-15695)

(Page 3, left lower column, lines 3 to 15)

A copolymer of a polymerizable compound having a fluoroalkyl or fluoroalkenyl group with a polymerizable compounds having a functional group and a copolymer of these copolymerizable compounds with a compound copolymerizable with these copolymerizable compounds can be normally used as the polymer having the fluoroalkyl or fluoroalkenyl group and the functional group in the present invention. Examples of the functional group are an alkoxy group having 1 to 6 carbon atoms, a sillyl group substituted with acetoxy or methoxyethoxy group, an isocyanate group, an isocyanate group added with an alcohol group having 1 to 6 carbon atoms or a phenol group, a hydroxyl group and a glycidyl group.

(Page 4, right lower column, line 1 to page 5, left upper column, line 8)

The compound copolymerizable with the polymerizable compound having the fluoroalkyl or fluoroalkenyl group and the polymerizable compound having the functional group can be widely selected, so far as the performances are deteriorated. Examples of the copolymerizable compound widely include ethylene, vinyl acetate, vinyl chloride, vinyl fluoride, vinylidene halide, styrene, acrylic acid and alkyl esters thereof, methacrylic acid and alkyl esters thereof, poly(oxyalkylene) acrylate, poly(oxyalkylene) methacrylate, acrylamide, methacrylamide, diacetoneacrylamide, methylolated diacetoneacrylamide, N-methylol acrylamide, vinyl alkyl ether, perfluoroalkenyl vinyl ether, halogenated alkyl vinyl ether, vinyl alkyl ketone, butadiene, isoprene, chloroprene, glycidyl acrylate, glycidyl methacrylate, benzyl acrylate, benzyl methacrylate, cycolohexyl acrylate, cyclohexyl methacrylate, maleic acid and alkyl esters thereof, tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, aziridyl acrylate, aziridyl methacrylate, dimethylaminoethyl acrylate and dimethylaminoethyl methacrylate. These are used alone or in combination.